

II. CLAIM AMENDMENTS

1. (Currently Amended) A light pipe comprising:

a first surface, said surface including patterns having diffractive properties for coupling light out from the light pipe to provide backlighting of a flat-panel display by means of at least one light source, said patterns comprising uniform, mutually different areas distributed on said first surface;

wherein the light pipe further comprises ~~comprise~~ first pixel-like formations having a first orientation and second pixel-like formations having a second orientation being different than that of the first pixel-like formations orientation, residing close to the light input end of the light pipe, said pixel-like formations being arranged to diffract the light for producing uniform lighting.

2. (Previously Amended) A light pipe according to Claim 1 wherein

said patterns comprise parallel elongated surface formations, the height and width of which differ from the environment,

said patterns comprise a first uniform area, in which a characteristic parameter has a first value;

said patterns comprise a second uniform area, in which said characteristic parameter has a second value, which differs from said first value;

and the surface formations in said first area differ from the surface formations in said second area with regard to said characteristic parameter, and said characteristic parameter is at least one of the following: orientation of the pattern, distance between the pattern and the light source, period length, fill factor, fill ratio, height, characteristic degree of modification, angle of deflection between the elongated surface formations of the pattern.

3. (Previously Amended) A light pipe according to claim 2, wherein the value of at least one characteristic parameter depends on a value defined in relation to the light source.

4. (Previously Amended) A light pipe according to claim 2, wherein the elongated patterns of the surface formations change gradually from first shapes at a first end of the pattern at a light source side to other shapes at an opposite side of said pattern at another end in a manner depending on a quantity, which is dependent on a relation to the light source.

5. (Previously Amended) A light pipe according to claim 2, wherein a local plane in the area of a pattern, which plane is determined by peaks of the surface formations of the patterns, is at an angle in relation to a plane determined by the first surface of the light pipe.

6. (Previously Amended) A light source according to claim 2, wherein at least one of the patterns has a fill ratio, and the

fill ratio increases when moving from the end at the side of the light source to the opposite end of the light pipe.

7. (Previously Amended) A light source according to claim 1, wherein distribution of the patterns depends on a quantity which is dependent on a relation to the light source.

8. (Previously Amended) A light pipe according to claim 1, wherein said first surface is on a side of the light pipe, which is closest to the display.

9. (Previously Amended) A light pipe according to claim 1, wherein elongated shapes of surface formations in the patterns are repeated in a uniform area of the surface of the light pipe.

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10. (Previously Amended) A light source according to claim 1, wherein at least one of the patterns has a fill ratio, the fill ratio increases along a central line of the light pipe from an end at the side of the light source to an opposite end of the light pipe, and the pattern has elongated formations, which are perpendicular to the central line.

11. (Previously Amended) A light source according to claim 1, wherein the pattern has a fill ratio between 0.2 and 0.5.

12. (Previously Amended) A light pipe according to claim 1, wherein at least one of the patterns has a fill ratio, the fill ratio increases as measured along a straight line when moving away from the light source, and the pattern has elongated surface formations, which are bowed, whereby the midpoint defined by the dimensions of the light source is located essentially at a focal point characterizing the bow.

13. (Previously Amended) A light pipe according to claim 2, wherein at least one pattern has a diffractive structure with a period length between 1.5 and 3.5 μm .

14. (Previously Amended) A light pipe according to claim 1, wherein depth and/or height of elongated surface formations of the surface is between 0.3 and 0.7 μm .

15. (Original) A light pipe according to claim 1, wherein the light pipe has a polygonal shape, with at least one angle, which differs substantially from 90° .

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16. (Original) A light pipe according to claim 1, wherein the light pipe has fluorescent and/or phosphorescent properties.

17. (Currently Amended) A light pipe arrangement comprising:

a light source,
a display,
a light pipe, and
a base plate of the light pipe,

wherein

the light pipe is limited by a first surface, said surface comprises patterns, said patterns have diffractive properties for coupling the light out from the light pipe to provide backlighting of (a) flat-panel display by means of at least one

light source, said patterns comprise uniform, mutually different areas with a distribution on said first surface; and

wherein the light pipe further comprises first pixel-like formations having a first orientation and second pixel-like formations having a second orientation being different than that of the first pixel-like formations orientation, residing close to the light input end of the light pipe, said pixel-like formations being arranged ~~arranges~~ to diffract the light for producing uniform lighting.

18. (Original) A light pipe arrangement according to claim 17, having three light sources.

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19. (Previously Added) A light pipe according to claim 1 wherein the diffractive patterns have a geometry which is varied with position on said light pipe so that brightness of light is constant with position along said light pipe.

20. (Previously Added) A light pipe according to claim 1, wherein the diffractive patterns have a fill factor which is varied with position on said light pipe so that brightness of light is constant with position along said light pipe.


21. (Previously Added) A light pipe arrangement according to claim 17, wherein the diffractive patterns have a geometry which is varied with position on said light pipe so that brightness of light is constant with position along said pipe.

22. (Previously Added) A light pipe arrangement according to claim 17, wherein the diffractive patterns have a fill factor which is varied with position on said light pipe so

that brightness of light is constant with position along said light pipe.

23. (Previously Amended) A light pipe comprising:

a first surface, said surface including two dimensional patterns having diffractive properties for coupling light out from the light pipe to provide backlighting of a flat-panel display by means of at least one light source, said patterns comprising uniform, mutually different areas distributed on said first surface.

 24. (Previously Amended) A light pipe arrangement comprising:

a light source,
a display, and
a light pipe,

wherein

the light pipe is limited by a first surface, said surface comprises two dimensional patterns, said patterns have diffractive properties for coupling the light out from the light pipe to provide backlighting of a flat-panel display by means of at least one light source, said patterns comprise uniform, mutually different areas with a distribution on said first surface.

25. (Previously Amended) A light pipe comprising:

a first surface, said surface including pixel patterns having diffractive properties for coupling light out from the light pipe to provide backlighting of a flat panel display by means of at least one light source, said patterns comprising uniform, mutually different areas distributed on said first surface.

26. (Previously Amended) A light pipe arrangement comprising:

a light source,
a display, and
a light pipe,

wherein

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the light pipe is limited by a first surface, said surface comprises pixel patterns, said patterns have diffractive properties for coupling the light out from the light pipe to provide backlighting of a flat-panel display by means of at least one light source, said patterns comprise uniform, mutually different areas with a distribution on said first surface.

27. (Previously Amended) A light pipe comprising:

a first surface, said surface including patterns having diffractive properties for coupling light out from the light pipe to provide backlighting of a flat panel display by means of at least one light source, said patterns comprising uniform, mutually different areas

distributed on said first surface including close to said light source.

28. (Currently Amended) A light pipe arrangement comprising:

a light source,
a display, and
a light pipe,

wherein

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the light pipe is limited by a first surface, said surface comprises patterns, said patterns have diffractive properties for coupling the light out from the light pipe to provide backlighting of a flat-panel display by means of at least one light source, said patterns comprise uniform, mutually different ~~difference~~ areas with a distribution on said first surface including close to said light source.

29. (Previously Added) The light pipe of claim 1, wherein said light out from the light pipe is substantially uniform with distance from the light input end.
